

WHAT IS CLAIMED IS:

1. A surgical joint comprising:
  - a first clamping member comprising a first clamping surface for engaging a first surgical rod and an attachment end;
  - a second clamping member mounted with respect to the first clamping member wherein the second clamping member comprises a second clamping surface for engaging a second surgical rod;
  - a shaft disposed through and positioned within the attachment end of the first clamping member and wherein the shaft is in communication with the second clamping member; and
  - a force providing mechanism disposed between the first and second clamping members and disposed about the shaft wherein when the force providing mechanism and the shaft are movable with respect to each other and place the first and second clamping members in either a non-clamping position or a clamping position.
2. The surgical joint of claim 1 wherein the force providing mechanism is rotatably positionable about the shaft.
3. The surgical joint of claim 1 wherein the force providing mechanism comprises a wedge wherein the wedge is positionable between the first position and the second position wherein the wedge applies a force to the first and second clamping members to position the first and second clamping members in the clamping position.

4. The surgical joint of claim 3 wherein the force providing mechanism further comprises:

- a first ramped surface having a first base and a first apex; and
- a second ramped surface having a second base and a second apex and wherein the first and second ramped surfaces are axially symmetric and wherein the first and second clamping members are in the non-clamping position when the first and second ramped surfaces at about the bases thereof cooperate with the first and second clamping members and wherein the first and second clamping members are in the clamping position when the first and second ramped surfaces at about apexes thereof cooperate with the first and second clamping members.

5. The surgical joint of claim 1 wherein the surgical joint further comprises:  
a bore disposed within the shaft wherein the bore is located between the force providing mechanism and the second clamping member;  
and

- a pin disposed within the bore wherein the pin engages the force providing mechanism and transfers a force to the first and second clamping members to position the first and second clamping members into the clamping position.

6. The surgical joint of claim 5 wherein the force providing mechanism further comprises:

- a first ramped surface having a first base and a first apex; and
- a second ramped surface having a second base and a second apex and wherein the first and second ramped surfaces are axially symmetric and wherein the second clamping member is in the non-clamping position when the pin contacts the first and second

ramped surfaces at about the bases thereof and wherein the second clamping member is in the clamping position when the pin contacts the first and second ramped surfaces at about apexes thereof.

7. The surgical joint of claim 6 wherein the first and second ramped surfaces further comprise:
  - a first set of indentions proximate the bases thereof;
  - a second set of indentions proximate the apexes thereof; and
  - wherein the pin engages the first set of indentions to retain the force providing mechanism in the non-clamping position and wherein the pin engages the second set of indentions to retain the force providing mechanism in the clamping position.
8. The surgical joint of claim 1 and further comprising a handle attached to the actuating mechanism.
9. A low profile surgical clamp mounted to a retractor support apparatus comprising:
  - a first clamping member for engaging the retractor support apparatus and an attachment end;
  - a second clamping member for engaging a retractor and being mounted with respect to the first clamping member;
  - a shaft extending through the attachment end of the first clamping member;
  - an actuating mechanism disposed about the shaft and between the first and second clamping members wherein the actuating mechanism is positionable between a nonclamping position and a clamping position of the first and second clamping members; and

a handle fixedly connected to the actuating mechanism and movable within a plane that approximately intersects an axis of the retractor support apparatus wherein an operator can grip both the handle and the retractor support apparatus and rotate the actuating mechanism between the clamping position and the non-clamping position with a single hand.

10. The surgical joint of claim 9 wherein the actuating mechanism comprises a wedge wherein the wedge is positionable to the clamping position by applying a force to the first and second clamping members.

11. The surgical joint of claim of claim 10 wherein the actuating mechanism further comprises:

a first ramped surface having a first base and a first apex; and  
a second ramped surface having a second base and a second apex and  
wherein the first and second ramped surfaces are axially symmetric and wherein the first and second clamping members are in the non-clamping position when the first and second ramped surfaces at about the bases thereof cooperate with the first and second clamping members and wherein the first and second clamping members are in the clamping position when the first and second ramped surfaces at about apexes thereof cooperate with the first and second clamping members.

12. The surgical joint of claim 9 wherein the surgical joint further comprises:  
a bore disposed within the shaft wherein the shaft is disposed within the surgical joint the bore is located between the actuating mechanism and the second clamping member; and

a pin disposed within the bore wherein the pin engages the actuating mechanism and transfers a force to the first and second clamping members to position the first and second clamping members into the clamping position.

13. The surgical joint of claim 12 wherein the actuating mechanism further comprises:

a first ramped surface having a first base and a first apex; and  
a second ramped surface having a second base and a second apex and wherein the first and second ramped surfaces are axially symmetric and wherein the second clamping member is in the non-clamping position when the pin contacts the first and second ramped surfaces at about the bases thereof and wherein the second clamping member is in the clamping position when the pin contacts the first and second ramped surfaces at about apexes thereof.

14. The surgical joint of claim 13 wherein the first and second ramped surfaces further comprise:

a first set of indentions proximate the bases thereof;  
a second set of indentions proximate the apexes thereof; and  
wherein the pin engages the first set of indentions to retain actuating mechanism in the non-clamping position and wherein the pin engages the second set of indentions to retain the actuating mechanism in the clamping position.

15. A surgical clamp comprising:

a clamping portion;  
a first leg extending from one side of the clamping portion;

a second leg extending from another side of the clamping portion, the first and second legs being spaced apart; and  
a wedge disposed between the first and second legs, the wedge being movable to force the first and second legs to move in opposing directions thereby placing the clamping portion in the clamping position.

16. The surgical clamp of claim 15 wherein the wedge is rotatably movable between the first and second legs.

17. The surgical clamp of claim 15 wherein the clamping portion comprises a clamping cavity whereby when the first and second legs are moved in opposing directions the clamping cavity constricts.

18. The surgical clamp of claim 17 and further comprising a fulcrum portion located between the clamping cavity and the first and second legs wherein when the first and second legs are forced apart the fulcrum portion flexes and constricts the clamping cavity.

19. The surgical clamp of claim 15 and further comprising a handle attached to the wedge.

20. The surgical clamp of claim 15 and further comprising a clamping member being rotatably attached to the clamping portion and the clamping member being positioned in a clamping position by movement of the wedge.

21. A surgical clamp for clamping at least two elongated members, each member having a central axis, the clamp comprising:

at least two clamping members, each clamping member having a clamping cavity with an opening for accepting an elongated member in a generally orthogonal direction to the axis of the member; and  
a mechanism that constricts the opening of the clamping cavity of both members generally simultaneously such that the respective elongated member is captivated within the clamping cavity.

22. The surgical clamp of claim 21 wherein one of the clamping member comprises first and second spaced apart legs wherein the mechanism forces the first and second spaced apart legs in opposite directions that results in constriction of the opening of the clamping cavity of that clamping member.

23. The surgical clamp of claim 22 wherein the mechanism comprises a movable wedge.

24. The surgical clamp of claim 21 and further comprising a shaft coupled to the mechanism wherein the shaft is attached to the two clamping members and has an end that extends into the clamping cavity of one of the two clamping members to place that clamping member in a clamping position.

24. The surgical clamp of claim 21 wherein the mechanism comprises a wedge.

25. The surgical clamp of claim 21 wherein the mechanism comprises a camming surface.

26. The surgical clamp of claim 21 wherein each clamping cavity comprises a constricted entrance such that when the two elongated members are placed within each cavity the elongated members are retained therein.
27. A surgical clamp for clamping surgical devices, the clamp comprising:  
a clamping member with a clamping cavity;  
a pin extending through the clamping member and into the clamping cavity; and  
a pin activating mechanism that moves the pin within the cavity placing the clamping member in a clamping position.
28. The surgical clamp of claim 27 and further comprising a spring that biases the pin into the clamping cavity.
29. The surgical clamp of claim 27 wherein the pin activating mechanism comprises a movable wedge wherein the wedge is moved to apply a force to the pin to position the clamping member in the clamping position.
30. The surgical clamp of claim 29 wherein the wedge is rotatably positionable about the pin.
31. The surgical clamp of claim 27 wherein the pin activating mechanism comprises a camming surface wherein the camming surface applies a force to the pin to position the clamping member in the clamping position.